Continuous Improvement Participant Workbook

Insert Name of Process/Problem/Issue

Insert name of Work Unit
Insert name of department/agency

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Lean Lab, 221 State Street

AGENDA

Task:

A. To begin collectively understanding the improvement work to be done and creating the proposed process for achieving the process goals & objectives.

B. To identify and prioritize departmental and user requirements of the process/system and to describe system attributes and features.

C. To begin developing a continuous improvement and process mindset, including a growing knowledge and practice in this approach and available tools that can be used in everyday work.

As a participant, this will give you the opportunity to:

- ❖ Develop and clarify your requirements for a timely, accessible, effective, efficient process.
- ❖ Develop a shared understanding of the goals and work to be done.
- ❖ Develop a sense of individual and group roles in achieving the goals.
- ❖ Develop a commitment to carrying out this work together.
- ❖ Understand the importance of measurement, documentation, & communication in the work.
- ❖ Begin to build a personal and organizational culture of continuous improvement.

Intervention Name: HETL Inventory Control & Ordering Process

Day One: _____

8:15 • Start-up & Agenda
• Charter
• Team Roles
9:00 • Improvement Project Mission
9:40 • Systems & Process Thinking
10:30 • *Break*
10:45 • Process Matrix
12:00 • ***Lunch*** *(on your own)*
12:30 • Flow Activity
1:15 • Begin Visualizing Current State
2:15 • *Break*
2:30 • Complete Mapping Current State
4:15 • Summary & Next Steps
4:30 • Adjourn

Day Two: _____

8:15 • Start-up
8:30 • **COMPLETE CS TIMES**
10:00 • *Break*
10:15 • Waste/Lean Concepts
11:00 • Analysis/Prepare for FS Mapping
12:00 • ***Lunch*** (on your own)
12:30 • Begin Future Process Mapping
2:15 • *Break*
2:30 • Continue Future Process Mapping
4:15 • Wrap-up/Feedback & Adjourn
4:30 • Adjourn

Day Three: _____

8:00 • Start-up
8:30 • **COMPLETE FS STEPS & TIMES**
9:30 • Review & Analyze CS, FS, & Times Calc.
9:55 • Improvement Imp. Plan Concepts
10:15 • *Break*
10:30 • Identify/Brainstorm Change Activities
11:15 • Begin Prioritizing Changes
12:00 • ***Lunch*** (on your own)
12:30 • Begin Creating Improvement Imp. Plan
2:15 • *Break*
2:30 • Finish Improvement Imp. Plan
4:00 • Follow-up/Next Steps
4:15 • Wrap-up/Feedback & Adjourn
4:30 • Adjourn

Team Work

Teams are one of the best ways to create change. The type of team necessary is one that comes together to accomplish the improvements and then disbands. When led properly and when working on the right things with the right change processes, these teams can produce extraordinary results that no individual alone could produce. Teams provide diverse opinions, expertise, and insights. If organized well, teams have a tremendous ability to communicate and build on each other's ideas and have an unusual way of creating an infectious enthusiasm that spreads throughout an organization like a virus.

Slogan**:** "People tend to what they help create."

All teams go through four stages. How long they spend in each stage is dependent on the facilitation and the level of participation of the team members. The challenge and even pain that team members may feel from time to time in this process is natural and is not a sign of dysfunction. Recognizing when the team is in one or another of the four stages will help in getting through that stage. In the table below are the four stages and a list of behaviors that characterize each stage.

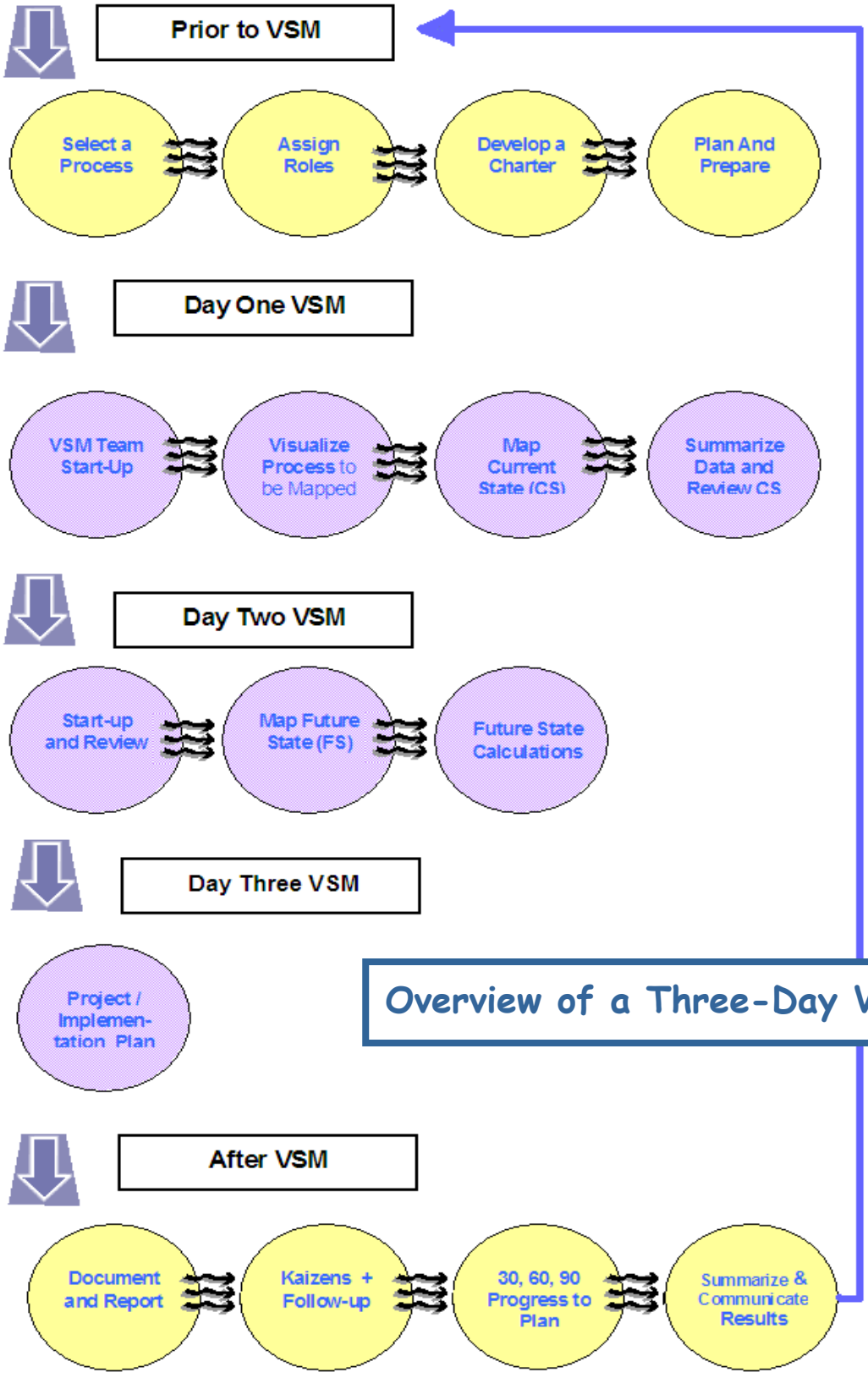
Team Stages			
Forming	**Storming**	**Norming**	**Performing**
• Uncertain. • Questioning. • Role not clear. • Commitment not yet made. • Confusion — *What do they want from me?* • *Is this project worth my energy (physical)?*	• Fighting. • Push back against the project. • Question roles. • Tense. • Personality conflicts. • *Why did I agree to do this?* • *Is this ever going to get better?* • *Do I want to continue?*	• Come together. • Follow team rules. • Resolve issues together. • Form new relationships. • *Can I help?*	• Good decisions. • Shared roles. • Appreciate each other. • Good use of time. • Breakthrough ideas. • *What's next? Bring it on!*

To help team progress, team rules and values are tools that get a team through the forming stage and smoothes the waters of the storming stage. Some of these guiding rules and concepts follow on the next pages.

Process Norms for Learning

- Use "I" – speak for yourself.
- Be open to different points of view.
- Be clear about the shared goal(s)/purpose of the session and your role within the group for achieving those goals.
- Help manage the time and tasks of this session.
- Actively listen**:**
  - Paraphrase what you hear.
  - Ask questions – be curious.
  - Clarify understanding.
  - Summarize what you hear.
- Demonstrate respect for others.
  - Including, turning off your cell phone (or, if you must respond to emergencies, put in ***vibrate*** mode). Do not text, check e-mails, etc. during the improvement work sessions.
- Leave your title at the door.
- Share what you know and say how you feel.
- Make assumptions explicit.
- Be responsible for your own learning. Make statements about what you need.
- Support others to get their learning needs met.
- "Play" with new ideas, approaches, behaviors, etc. (experiment).
- Remember**:** What is said here, stays here … "Take the learning, not the story."

The Improvement Process


Prior to VSM
Select a Process
Assign Roles
Develop a Charter
Plan And Prepare
Day One VSM
VSM Team Start-Up
Visualize Process to be Mapped
Map Current State (CS)
Summarize Data and Review CS
Day Two VSM
Start-up and Review
Map Future State (FS)
Future State Calculations
Day Three VSM
Project / Implemen-tation Plan
Overview of a Three-Day VSM
After VSM
Document and Report
Kaizens + Follow-up
30, 60, 90 Progress to Plan
Summarize & Communicate Results

Description: Three-Day Improvement Process

Purpose: The purpose of **Process Improvement** is for team members to --

1. See - and document the process, nuts and bolts of each transaction; flowchart it.
2. Assess - using time measurements, characterize the current state process.
3. Measure - in addition to the time measures, ask if there are others?
4. Change – identify, plan, and implement changes, and then measure improvements.

PROCESS IMPROVEMENT (PI) mapping is a practical and visual method that allows you to see and identify the wastes, bottlenecks, batches and backlogs in any process and eliminate/reduce them, then to create an action plan to implement the proposed improvements and add greater value to the customer. Below is one example of the steps in a current process map, describing the activity, the work and elapsed times, and the role/function that performs the activity.

Process Name: Income Tax Refund								Date:						
Product: Tax refund check			Customer: Taxpayer					Volume/Yield: (# per time period)						
Customer	10m 2D-7d Mail Return													10m 2d-7d
Mail Room		10s 3h-4d Deliver Mail										10s 4h-4d Mail check		20s 7h-8d
Mail Opener			10s 15m-5d Open envelope, Review contents											10s 15m-5d
Pre-Editors				60s 2h-3w Pre-edit Return										60s 2h-3w
Thumpers					1s 2m-3d Stamp DLN number									1s 2m-3d
Data Entry						4m 3h-60d Key-entry return	2m 3h- 60d Re-key return							6m 6h-120d
System								1s 2d-7d Process return						1s 2d-7d
Accounting									1s 2d-3d Create warrant tape					1s 2d-3d
Treasurer										10s 2d-4d Approve fund transfer				10s 2d-4d
Central Adminis-tration											10s 2d-4d Print check			10s 2d-4d
													Total Work Time	7m 53s
													Elapsed Time – Best Case	10d 17m
													Elapsed Time – Worst Case	175d

* ***FACT Sheet*** (**F**unction, **A**ctivity, **T**ime). Adapted from Ken Miller. The Change Agent's Guide to Radical Improvement. ASQ Press: Milwaukee, WI. 2002

Prior to the Process Improvement Mapping

First, the process to be mapped is selected. Each Department and individual organizational unit may have a different method of selecting a process for improvement. Next, roles are assigned**:** Sponsor, Manager, Team Members, Data Manager, and Caucus Members as appropriate. The Sponsor, Manager, and sometimes other team members meet with the Continuous Improvement Practitioner(s) (CI-P) to develop a charter and contract for support. The Charter and related Process Improvement (PI) information are sent out to all the team members. Then each person, within his or her specific role, plans and prepares for the process mapping.

Sometimes this will also include a Worksite Visit by the CI-P(s). The purpose of the visit is to collect information in order to assess needs and recommend the most appropriate improvement process and tools. In particular, information/data about the current process and customer demand/requirements should be collected and available for the improvement work ahead. And, of course, all administrative and logistical requirements get attended to as well.

Day One Process Improvement – Visualizing the Current Process

The focus of the first day is to begin to understand systems in general and to accurately see, measure, and analyze the selected current process as it actually is now. The tendency on Day One is to want to "fix" the process – to leap to solutions -- rather than first just trying to understand it as it is now. The activity will be to visualize the current process and understand the difference between work time and elapsed time best-case and worst-case scenarios, as well as identify the customer(s) and product(s) of the process. Remember, you will have the opportunity to make things better when you create the new, improved process!

Day Two Process Improvement – Creating the Future Process

On Day Two, the focus is on the future. If the process were improved by applying continuous improvement concepts and tools to the current state, what would the future process look like and how do you anticipate it would perform? The team creates and maps a new, improved future process, always keeping in mind the customer and the customer's demands.

In order to accomplish this, the team looks at the current state and the work & elapsed times, identifying any areas that point to wastes, bottlenecks/backlogs/batches, multiple hand-offs, redundancies, and rework.

Depending on the amount of work completed on the first day and second day, the development of the Improvement Implementation Plan may be started on the second day.

Day Three Process Improvement Implementation Plan

On Day Three, the focus is on implementing the future process. The team discovers their answers to the analysis questions and identifies the strategies, changes, and actions that will be needed to move the process from the way it is now to the new improved process – what must be done to get to the future state.

The team develops an improvement Implementation plan that describes how they will implement the new improved process – what actions/activities are needed to get from the current process/system to the future process/system. The team plans only the changes that they will commit to carrying out together. The purpose of the plan is to quickly change the value stream from the current state to the future state.

The team will also need to identify what to measure in order to know if and how the process is improving and if customer needs/demands are being met.

After the Three-Day Systems Improvement

The work accomplished by the improvement team will be documented by the Continuous Improvement Practitioners and handed over to the Sponsor, Manager, and Team members. The work of implementing the plan then becomes the responsibility of these team members to follow through on, using good project management tools and techniques.

The team must minimally report to the Sponsor and measure progress on the plan on a monthly basis. Meetings of the team will be monthly, or as necessitated by the plan, through a combination of different modalities, such as face-to-face and WebEx conferencing. The majority of improvement changes should occur within the first three months. All results must be documented and reported. The plan itself should be dynamic, evolving and reflecting changes as the work gets done and/or new work is identified.

Rapid Improvements/Kaizens need to be scheduled along with any other follow-up activities that were identified during the value stream improvement. The word *Kaizen* means to “make better.” In a Kaizen, a team meets to rapidly address challenges that were identified during the Value Stream Improvement. The goal is to produce the deliverable within the rapid improvement event itself.

Communication from the team to the rest of the organization is extremely important. The team is responsible for sharing their learnings – successes and failures – in order to support the organization’s continuous learning and improvement.

Improvement Intervention Charter

(Insert completed Charter here)

Intervention/Process Name:			
Team Member Names	**Position/Job**	**Phone**	**Email**
Sponsor:			
Manager:			
Staff Members:			
Data Manager:			
Caucus Members:			
CI-Practitioners:			

Process Description:

Product(s)/Service(s):

Customers/Clients:

Supplier: **(upstream)**

Process Boundaries / Intervention Scope: First Step:	Last Step:
Scope:	

Problem Statements:

Ideal Situation:

Intervention & Work/Process Measurement:		
Target Objectives	**Specific Measurements:**	**Timeframe:**
Intervention:		

Resources Available:

Role Expectations:

Intervention & Work/Process Deliverables:		
Objectives	**Expected Deliverables**	**Timeframes**

Improvement Intervention Charter – Definitions, Descriptions, and Examples

Intervention/Process Name: A brief name for the selected problem, challenge, or process for which the intervention is being conducted. The charter describes what the team is about to address.

Intervention Improvement Team:

Sponsor: The person (the "owner") with overall responsibility for the intervention and its implementation, for removing barriers (getting to *YES*).

Manager: The person responsible for managing the implementation of the plan and with the authority to implement it.

Other Staff Team Members: Other staff Team members – the staff who actually do the work.

Data Manager: The person who will be responsible for assisting the other team members to calculate and track the measurements.

Caucus Group Members: The resource staff who can be called on for specific expertise or other support as needed.

CI-P: The *Bend the Curve* Continuous Improvement Practitioners designated to work with and mentor the Sponsor, Manager, and team in planning, conducting, and following up on the requested intervention.

Process/Problem Description: A brief description of the problem/process being proposed for improvement, including its purpose/mission.

Product/Service: the material, information, item, service, etc. demanded/wanted by the customer and produced/transformed by this specific work/process.

Customer(s): Identifies the customer(s) of this work/process, both internal and external to the work/process itself. Be clear about who the end user of the product/service is.

Supplier: The internal and/or external persons/entities that provide information, documents, supplies, people, etc. for the work/process.

Boundaries of this Process – or - Intervention Scope: Defines <u>specifically</u> where this work/process begins and ends for the purposes of this intervention. The first (the trigger) & last actions/events in a process and/or a specific description of the scope of the work to be addressed.

Problem Statement: The reason(s) -- with the relevant data analyzed to provide needed information -- you want to change/improve/create this work/process. And what you want to change, improve, or design/create.

Ideal Situation: A brief description of what the ideal situation would be for the improved process/problem/design. Identify in the measurements below how you will know if you are successful in achieving this state or in making progress toward it.

Measurements: (See examples below.)

Target Objectives	Specific Measurements	Timeframe
Intervention **Project Process/Problem/Design**		

Resources/Budget: Identifies human, fiscal, and other resources available to the project team and project process.

Role Expectations: Describes expectations about authority and responsibility in relation to decision-making and implementation.

Intervention/Process Deliverables: Concise description of deliverables expected. (See examples below.)

Objectives	Expected Deliverables	Timeframe
Intervention **Project Process/Problem/Design**		

Improvement Team Roles

Sponsor

The improvement Sponsor has primary oversight responsibility for the improvement team and improvement project, for enabling implementation of the change/Implementation plan, and for removing barriers to change (getting to *Yes*), as well as assuring coordination with larger organizational goals, including meeting customer needs and demands.

- Removes barriers to improvement change.
- Serves as the leader, role model, for continuous improvement in his/her organization.
- Commits to learning and continuous improvement.
- Has primary oversight of the process/problem/issue selected.
- Attends mapping and implementation progress meetings as needed to support the team.
- Facilitates the initial convening of the intervention team.
- Selects or approves the selection of the Manager.
- Communicates the relationship between project's goals and higher organizational goals.
- Develops or approves the charter of the team, including meeting with the Practitioner to review the charter prior to the learning and improvement process.
- Monitors development and implementation progress:
    - Reviews measures at regular intervals.
    - Facilitates course corrections as needed.
- Acts as resource to the team as requested by team.
- Clarifies decision-making authority and boundaries with Manager.
- Communicates improvement progress status with the BTC Steering Committee.
- Facilitates conflict negotiation at boundary interfaces.

Manager

In addition to any team member role he/she might have, the improvement Manager has overall operational and program responsibility for the improvement team, project, and implementation activities. This includes enabling and tracking progress of change activities, facilitating forward movement, and assuring the implementation of the change/Implementation plan.

- Manages and improves processes/systems consistently and continually to assure organizational principles and outcomes are realized.
- Assigns responsibilities to intervention team members as appropriate.
- Ensures priorities are maintained.
- Keeps focus on Improvement Implementation Plan, assuring that it is current, dynamic, and accessible.
- Facilitates team problem-solving.
- Keeps Sponsor and other stakeholders informed and updated re: progress/results.
- Models good implementation and meeting management.
- Ensures team charter is complete and approved by Sponsor.
- Elevates issues, concerns, and accomplishments to Sponsor.
- Maintains accurate records, data, and information.
- Facilitates team learning.
- Supports active team member participation.
- Maintains consensus decision-making.

Other Team Members

The improvement Team Member has responsibility for committing to operational process and program improvement as an intrinsic part of his/her daily work by consistently applying continuous improvement philosophy and tools. (*It is the work!*) This includes actively participating as a member of the improvement team, supporting change and the implementation of improvements, and continually seeking to improve performance and meeting the needs of customers.

- Attends and participates fully in the improvement work session(s).
- Attends and participates fully in any Kaizen event(s), as needed. (Dates as determined.).
- Attends and participates in weekly/other improvement team meetings as needed (face-to-face, conference calls, or internet).
- Completes activities/assignments per the agreed-upon Implementation plan created by the team itself.
- Develops, assesses, and monitors measures and makes adjustments to plan as needed.
- Negotiates current workload and expectations with immediate supervisor.
- Communicates team results and learnings periodically. Keeps the Sponsor, Manager, and Caucus Members informed and updated.
- Models good meeting management.
- Commits to learning and continuous improvement.
- Maintains consensus decision making.
- Provides support and follow-up to the Data Manager.
- Commits to seeing and doing work as a process in continual improvement.
- Shares ideas and suggestions for improvement with other team and work members.

Data Manager

In addition to the team member role he/she has, the process improvement Data Manager is responsible for calculating and explaining the measurements at the time of the improvement activity (such as Value Stream Mapping-VSM, Kaizen, etc.) and for tracking and reporting them for the duration of the improvement project.

- Calculates and Documents metrics as team works through the mappings.
- Calculates the summary metrics.
- Calculates, documents, and shares the improvement Implementation plan gains, trends, patterns, etc.
- Works, as indicated, with the Manager to track measurements during implementation / follow-up.

Caucus Member

The improvement project Caucus Member serves as a resource and support to the team by:

- Staying informed of the team's progress.
- Providing feedback, expertise, and input as requested.
- Participating in selected team work sessions if needed.
- Providing other support as needed or requested by the team.

Worksheet: Improvement Project Mission Statement

What is our purpose?

Objective:

- Define the purpose (mission) of the improvement team.

How will we define it?

- A mission statement is a document that serves as a shared purpose for the team. It is something you can keep coming back to if you feel you are getting off track.
- The mission statement template asks what you are doing, for whom, and why in undertaking this improvement project.
- It may take several iterations through each of the three blanks before you get a statement with which you all are comfortable.
- This can go quickly or can take a while.

MISSION TEMPLATE

Action Steps:

1. Create the mission template on a flipchart.
2. Identify which you would like to fill in first.
3. Brainstorm possible answers for that blank. (Use stickies with only one answer per stickie.)
4. Reach consensus on the answer.
5. Repeat steps two through four for each blank.

   Note: There may be considerable bouncing around between blanks; as one blank gets decided, it may change the answers in other blanks. That's why it is advised you use stick-on notes.

6. Write the complete mission statement on a fresh flipchart page.
7. Do a gut check within the group by asking *"Can you all live with this? Is there anybody with a strong objection?"*

MISSION STATEMENT TEMPLATE

The Mission of the (*insert name of the process/problem*) Improvement Team

is to _____
(do what)

for _____
(whom)

so they can

_____
(why)

Mission Statement Checklist

- o The mission statement is clear about what the team is trying to achieve and whom it is trying to satisfy.
- o The team feels good about the statement.
- o The statement is simple and easily understood.
- o The team did not spend too much time word-smithing the statement.

What is Lean / Continuous Improvement ?

What is Lean / Continuous Improvement?

As part of the effectiveness of State government, we want to provide the highest quality of life to as many of Maine's citizens as possible and to support each other in that effort. And we all want to do this

- As quickly as possible.
- As simply as possible.
- With the highest quality possible.
- Using the fewest resources possible.
- Using facts whenever possible to solve problems and make decisions.
- With a disciplined, best practice approach.
- In a way that is sustainable beyond our tenure in government/organization.

The continuous improvement model provides the philosophy and approach for us to do this. This philosophy is fundamentally about creating value for the customer/consumer while using the fewest resources possible. It's about getting the right service in the right amount to the right person at the right time, while minimizing waste and being flexible and open to change and improvement. It is, at its heart, a disciplined thought process about the work we do. It describes a dynamic process governed by a systemic set of principles, methods, and practices that embrace all aspects of our work.

It is, therefore, *a way of thinking* to adapt to change, eliminate waste, and continually improve. It does not expect us to arrive at perfection. Instead, it stresses an evolutionary process of change and adaptation. It provides a number of tools and techniques to help us maximize the effort of our workforce and to operate as a lean government.

There are several key principles that are at the core of this improvement/change philosophy:

1) Know your customer/client – who they are and what they want and when.
2) The customer defines value.
3) Keep the process simple and flowing smoothly (and eliminate waste).
4) Do "it" right the first time.
5) Involve and empower employees.
6) Continually improve in pursuit of perfection.

These principles probably appear to be common sense and pretty straightforward and yet are often very difficult to make a reality. The principles assume that an individual, team, or an organization is consistently operating with a **PROCESS MINDSET.** Having a process mindset means that the notion of "process" is so imprinted into our worldview that it is an automatic filter through which we view reality. So much so, that when asked, "What do you do for work?" we see a process, not simply a task or an event. Not only do we see a process but also many processes, weaving together -- as well as many levels of process.

Having developed this process mindset, we will also see other important conceptual constructs:

- We all have customers.
- All work is a process.
- Processes can be defined.
- Problems happen for a reason.
- Everything can be improved.
- Methods can be standardized.
- Processes can be measured.

With a process mindset, it also becomes easier to identify those things that do not add value from the customer's perspective, such as **WASTE**. Waste, or non value-added tasks/actions, is not something a customer would be willing to pay for. In the Toyota Production System, waste is defined as "anything other than the minimum amount of equipment, materials, parts, space, and worker's time which are absolutely necessary to add value to the product [services]." When we do things right the first time, there is less waste and more value to the customer.

When our processes are simple and **FLOW** in a continuous, connected, unobstructed way, again there is less waste and more value to the customer. Flow is defined as the progressive achievement of tasks along a value stream so that a product or service proceeds from the beginning and into the hands of the customer without any stoppages/waits, waste, or backlogs. Through the value stream mapping process (VSM), we can visualize the process flow, measure it, and then plan and implement ways to improve it.

The term **PROCESS** is simply all the specific activities required to design, order, and provide a service or product to a customer. The bookends identified in a team's charter define the beginning and end of the particular process to be addressed.

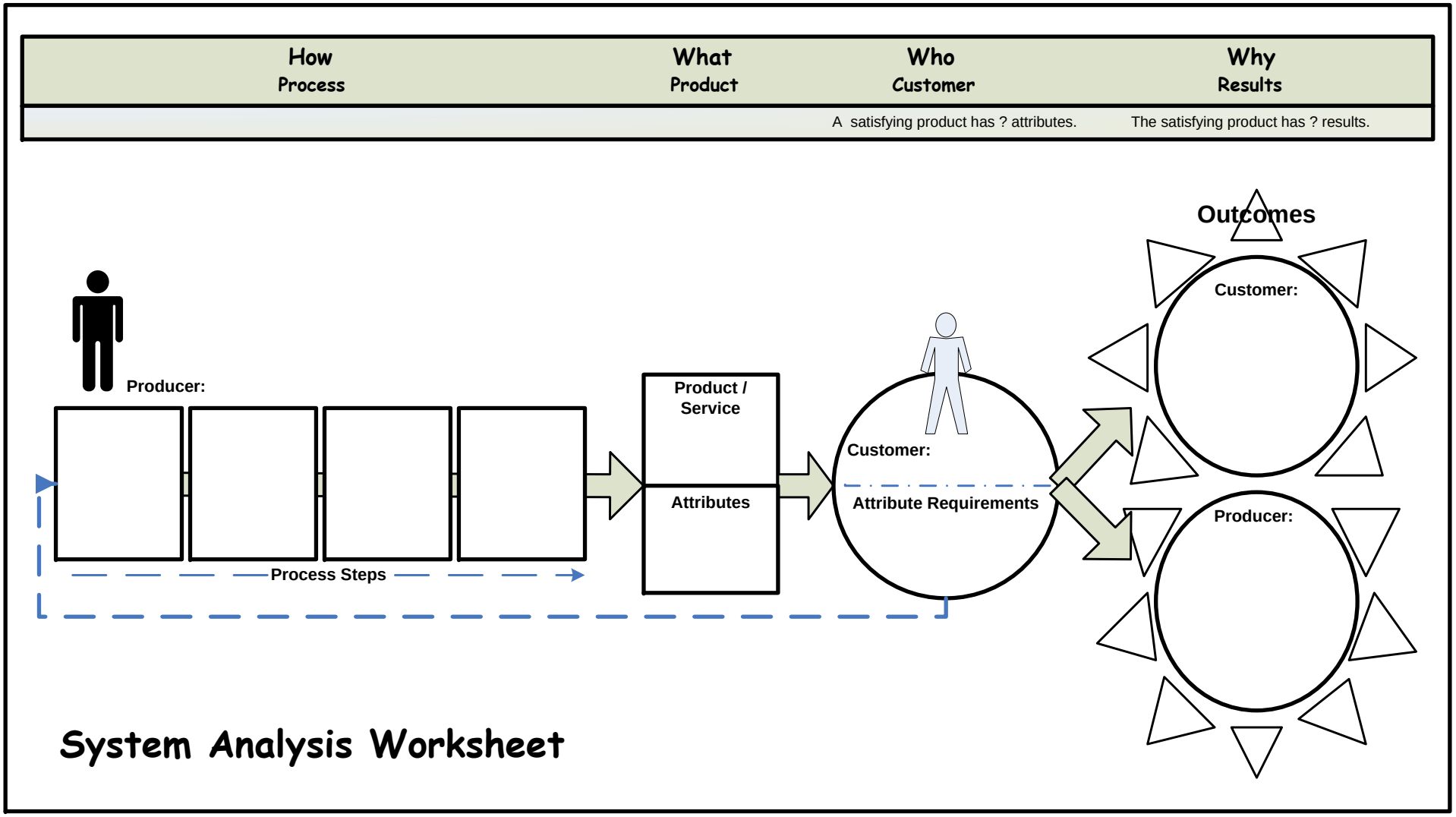
LEAN MANAGEMENT CONCEPTS:

- Make the product/service to customer demand, not for inventory.
- Eliminate all non-value adding activities (waste).
- Success depends on the People who do the work.
- Stable, standardized Operations are essential.

Key Characteristics:

- *Pull service delivery: Services are "pulled" by the consumer, not pushed from the service delivery end.*
- *First-time quality: Striving for excellence/perfection, for zero defects/redoing work. Identifying & solving problems at their source; achieving higher quality and performance at the same time; teamwork & worker empowerment.*
- *Waste minimization: Minimizing/eliminating activities that do not add value for the customer; maximizing use of resources (capital, people, and space), efficient use of just-in- time inventory.*
- *Continuous improvement: Continually improving quality, increasing productivity/ performance, reducing costs (resources), and sharing information.*
- *Flexibility: Being open to change; providing different mixes and/or greater diversity of services quickly, without sacrificing efficiency.*
- *Long-Term Relationships: Building and maintaining effective long-term relationships with providers/contractors through collaborative risk-sharing, cost-sharing, and information-sharing arrangements.*

Systems Analysis



PROCESS ANALYSIS MATRIX & EXAMPLE

		Purpose							
Process Name	**Customer**	**Goal**	**Objective**	**Business Rules**	**Boundaries**	**Inputs**	**Key Activities Steps/Tasks**	**Products / Outputs**	**Measurable Outcome{s}**
The title of the business process	*The person, end user, who personally uses the product to achieve the outcome*	*How the business process supports one or more of the directions of the system / process*	*A concrete, measurable statement that describes what the business process is trying to achieve in support of this goal*	*A set of requirements / standards that defines or constrains some aspect of the business process*	*Events, actions, or states that initiate the first response / action in a business process and that end the response / action*	*Information or tangible items needed for the business process*	*The sequence of key activities / steps carried out in the business process*	*Created / transformed by the business process, are tangible, countable, deliverable, and specific.*	*The results that indicate the Goal / Objectives have been achieved*
Example: Information Resource Access for New Hires	New Hire	Human, fiscal, & material resources of the department are used efficiently & effectively to assure timely, appropriate, and accurate services to clients.	New hire has access, on first day of work, to all the information resources identified as needed to fully perform his/her job.	1. Privacy - Confidentiality laws & rules. 2. State of Maine IT Security Policy. 3. Budgetary Constraints.	Start: Decision to hire made. End: Employee has all appropriate IR access to meet customer needs .	1. Hiring notification protocols 2. Job description. 3. Standardized access requirements. 4. Needed hardware & software	1. Notify IT of hiring decision & date of report to work. 2. Identify IR needs. 3. Schedule installation. 4. Install hardware & software. 5. Activate access. 6. Notify new hire's supervisor. 7. Send temporary password(s) to new hire on first day of work.	1. Temporary passwords 2. Installed hardware & software	On first day of work, New Hire has 100% of the information resources needed to serve clients in a timely, accurate, and quality manner.

Worksheet: System Analysis

A. Describing the System

1. **Customer/End User:** Identify the end users of the product.
   - End users are customers who actually, personally use the product to achieve a desired outcome. They are the people for whom we create the product.
2. **Purpose – Goals & Objectives:** Identify the direction(s) of the system that the process supports and the measurable description of what the process is working to achieve in relation to the goal(s). These objectives should be *SMART*: Specific, Measurable, Attainable, Realistic, Timely. For example, instead of "Substantially decrease the number of application errors", you might say "Decrease the number of application errors by 75% within the next twelve months."
3. **Business Rules:** List the requirements, standards, mandates, laws, rules, policies, etc. that define or constrain some aspect of the process.
4. **Boundaries:** Name the event, action, or state that initiates (triggers) the first response / action in the process and the one that ends the response / action. These define the scope of the work.
5. **Inputs:** Identify the information or tangible items needed for/being transformed by the process
6. **Process Steps:** Describe the major steps/activities of the process that produces the product.
7. **Product/Service & Producer:** Identify the product/service and its producer that are at the center of the symptoms/problems/objectives you have identified.
   - Product – A deliverable created by the work activity of the process. Products are nouns, specific, countable/measurable, and can be made plural with an "s". Be as precise as possible.
     Examples include service/benefit applications, licenses, investigations, grant applications, answers, contracts, purchase vouchers, findings, service/care plans, financial audit reports, decisions, strategic plans, etc.
   - Product Expectations: List the key product attributes likely to be expected by the end user(s) and by the producer. Keep in mind that the attributes desired are not always the same for the customer and the producer.
     Examples include timely, easy to use, fast, simple, accurate, appropriate, cheap, etc.
8. **Outcomes:** Define the outcomes (results) expected of the customer using the product -- from both the end user(s) and the producer perspectives. These, also, are not always the same for the customer and the producer.

B. Checking the System's Vital Signs

1. Does the product/service meet the end users expectations?
2. Is the product/service achieving the desired outcomes?
3. Is the process able to produce the product/service accurately?
4. Is the process able to produce the product/service in a timely manner?
5. Does the process take too long?
6. Does the process cost too much?
7. Is the process too complex?

How do you know?[1]

[1] Adapted from Lean BOK; Ken Miller's The Change Agent's Guide to Radical Improvement. 2002; WE Deming's SIPOC; RWJF Common Ground, etc.

Product & Customer Roles

What is the product?
Who is the customer?

Objectives

- Identify the product(s) / widget(s)
- Identify all existing and potential customers for the product.
- Determine the roles each customer is playing with the product.
- Discover who currently has the power over the product's design.
- Focus on the wants of the end users.

Product

Name of the Product: _____
(Must be a noun, a deliverable, can be counted & can be made plural with an "s")

- A product is something created/transformed by work (the process activities) which can be given to someone else (the customer) to achieve a desired outcome/result. It is the bridge between the activities/tasks and the outcome/result.
- It is specific and must be -
    - a noun,
    - a deliverable,
    - countable, and
    - expressed as something that can be made plural with an "s".
- A product has both **attributes** ("*A satisfying [Product name] is one that is ……."* C*haracteristics such as timely, flexible, cheap, easy to use*) and **features** (*bring attributes to life, such as 24/7 electronic format, multi-language options, etc.*).
- A process may have more than one product.

Customer

Name(s) of the Customer: _____
(Identify if end user, broker, or fixer)

- The customer can be determined only in relation to a specific product. Once we are clear about the product, we can determine who the customer(s) is.
- Not all customers are the same. Customers can play different roles with a product. Some are end-users, some are brokers, and some are fixers.
- The goal is to satisfy end-users first, then to worry about the others.

End-user -- The customer for whom the product is primarily intended. This customer will personally use the product to achieve a desired outcome. They actually receive it and use it to achieve a specific result -- and not some other product.

Broker -- A customer who acts as an agent of the end-user and / or the producer. This person does not personally use the product. As an agent of the end-user, the broker makes the product more accessible, easier to use, and more appealing. As an agent of the producer, the broker "encourages" the user to accept the product.

Fixer -- Any customer who will have to make repairs, corrections, modifications, or adjustments to the product at any point in its cycle for the benefit of the end user.

Action Steps for You:

1. Identify the product.
2. Name the product producer.
3. Identify all current and potential customers of the product.
   - Ensure that the customers identified actually have a role with the identified product.
   - If necessary, trace all the hands the product touches from the time it leaves the producer's hands.
4. For each customer, identify whether they are end-users, brokers, or fixers.
5. Rank the customer groups in the order of who has the most power over the way the product is designed, including the producer.
6. Think about the implications of the power rankings**:**
   - How much power do the end-users have?
   - Who has the most power and why?
   - How does the amount of power affect the product?

Parallels between Government and Private Business*

Accountability ↑

Business	Government
Investors	Taxpayers
Board of Directors	Legislature or Government Board
CEO	Governor or County Commissioner/Town Mayor
Business Unit	Department or Division
Products / Services	Products / Services

* Adapted from Ken Miller. We Don't Make Widgets: Overcoming the Myths That Keep Government from Radically Improving. Governing Books: Washington, D.C. 2006.

Title: **Names the problem, theme, or issue.** *[What are you talking about?]*

Owner/Date Identifies who "owns" the problem or issue and the date of the latest revision.

I. Background

Establishes the business context and importance of the issue.

Why are you talking about it?

II. Current Conditions

Describes what is currently known about the problem or issue.

Where do things stand today?

-Show visually using charts, graphs, drawings maps, etc.

What is the problem?

III. Goals/Targets

Identifies the desired outcome.

What specific outcomes are required?

IV. Analysis

Analyzes the current situation and the underlying causes that have created the gap between the current situation and the desired outcome.

What is the root cause(s) of the problem?

- *Choose the simplest problem-analysis tool that clearly shows the cause-and-effect relationship.*

V. Proposed Countermeasures

Proposes some corrective actions or countermeasures to address the problem, close the gap, or reach a goal.

What is your proposal to reach the future state, the target conditions?

How will your recommended countermeasures affect the root cause to achieve the target?

VI. PLAN

Prescribes an action plan of who will do what when in order to reach the goal.

What activities will be required for implementation and who will be responsible for what and when?

What are the indicators of performance or progress?

- Incorporate a Gantt chart or similar diagram that show actions / outcomes, timelines and responsibilities. May include details on specific means of implementation.

VII. Follow-up

Creates a follow-up review/learning process and anticipates remaining issues.

What issues can be anticipated?

- Ensure ongoing PDCA

- Capture and share learning

A3 Problem-Solving Template. Source: John Shook. Managing to Learn. Cambridge, MA:LEI. 2008

VSM Current State

Worksheet: Visualize the Process to be Mapped

Purpose: The purpose of this task is to:

1. Begin visualizing the steps and sequence of the process to be mapped.
2. Get everybody on the same page about what the current process is.
3. Engage all team members in the work.
4. Quickly generate information about our collective understanding of the process as a base from which we'll work.

Task:

- We will work individually for a few minutes and then as a group.
- **Individually, brainstorm** as many steps in your process as you can think of. Don't censor yourself. Don't worry about sequence or accuracy. If you don't know a step, someone else will.
- We will use the "bookends" we've already talked about in the Charter. These are already posted on the butcher paper on the wall.
- Use a separate 4x4 post-it for each step you can think of. Please use a sharpie pen and
  - ⇒ Write **quickly,**
  - ⇒ Be **brief**,
  - ⇒ write **large** enough to be read from a distance (and legibly),
  - ⇒ write **legibly**,
  - ⇒ write **one step per stickie**, and
  - ⇒ **start** each step **with a verb**.
- Remember, this is a silent, individual brainstorm. Work quickly and get as many steps down as you possibly can.
- You have **3 minutes**.

Keep in Mind: *This brainstorming is not the time for discussion on the how and why of each step, but only what's occurring now in the process as you see it yourself and at what point it's occurring. No debates -- if someone's doing it, it's part of the process. There will be time later for a detailed discussion of these steps.*

Worksheet: Visualizing & Mapping the Current Value Stream

What is the current process?
How long does it take?
How much of the process time is opportunity for improvement?

Objectives:

- Develop a shared understanding of the whole current process.
- Identify opportunities for time reduction.
- Determine where in the process to focus first improvement efforts.

Estimated Time:

2 to 3 hours

Introduction:

- You want to get a clear picture of each of the steps and players in the process.
- You want to identify how long the process takes and in how much of that time actual work is occurring.
- You want to get an understanding *elapsed time* and *work time*.
- 95 percent to 99.95 percent of the time in most processes is waste (lost time due to handoffs, batches, approvals, and so on). Your goal in the future state will be to get the total process time as close to the total work time as possible. After that, you will try to cut as much work time out as possible.

BUILDING THE PROCESS MAP

Action Steps:

1. On the butcher block paper on the wall – at the top, starting on the left, write the name of the final product the end user receives, which is the purpose of this process.
2. Write the name of the end user.
3. Write the name of the product / deliverable that is created first in this process. (Likely within Steps one and two.)
4. Estimate the usual amount of time the whole process takes from beginning to end.

5. Write the volume of the product, identifying the time period. Identify any additional data relevant to the effectiveness and efficiency of the process.

6. On a buff/yellow Step Sheet, identify the first activity in the process (refer to the steps you identified in the brainstorming and Loop & Group). **The activity must start with a verb and contain a noun** (for example, Request product information). Place this at the top of the left-hand side of the workspace.

*For each step in the process, we will use a worksheet that we call a **STEP SHEET**. It is used*

- *to identify the activity, the step,*
- *to document and calculate measurements,*
- *to keep track of assumptions,*
- *to highlight opportunities for improvement, and*
- *to provide a baseline for measuring improvements.*

7. Identify the organizational function or person that performs the activity, Write the name on a stick-on note (or on the butcher paper itself), and place it to the left of the activity (draw in a column to the left). Be sure to identify the function name, not the name of a person. For example, supervisor, agreement administrator, case manager, etc. These are the "players" in the process. Do not forget the customer if they perform an activity in the process.

8. Place the activity Step Sheet in line with that function.

9. Repeat this naming of each activity in the process, sequencing the Step Sheets in the order in which they occur. The far left-hand column will be the players in the process. Only activities that occur simultaneously (in parallel) should be shown in the same "column". (See example of map that follows.)

10. Record three units of time on each activity's Step Sheet:

    a. In the upper-left corner, identify the actual *work time* to complete the activity, excluding any delays and waiting time. (How long would it take you to do one if you could just sit down and do it?)

    b. In the upper-right corner, identify the *best-case and worst-case elapsed time.* Best case is how long the activity will take if everything goes well. Worst case does not mean a hurricane or outbreak of the Ebola virus; rather, it refers to how long the activity takes when things go wrong.

Identifying the time measures for each step and the process can sometimes feel frustrating, difficult, and even like a waste of time. The numbers you provide in this mapping session can seem arbitrary and of little value. Keep in mind that, by and large, measuring our operational processes is a new concept and often counter to the current culture. At present, these measurements are either non-existent or fairly minimal. So what may seem as arbitrary is actually a giant step forward!

Keep in mind that these times are an estimate based on the collective wisdom and experience of the team -- a measurement which is a much better number than nothing at all. For many steps in the process, we may be using a "yardstick" to measure for now – not necessarily all that accurate. However, it's better than zero. In the future, as we more routinely measure what we do in our processes, we'll be able to become more precise and, through continuous improvement, to begin to use a "micrometer."

So, why go through this frustration? Because we can't answer the question of how much waste is in the process. The customer does not consider waste as value-added, something they would be willing to pay for. And we can't improve it if we can't measure it. As we all know, sometimes just simply starting to measure something leads to its improvement.

*Some **TIPS** for measuring the current state process:*

- *Don't get bogged down in numbers or percentages – use the best data available to you. If you need to, throw out the highest and lowest numbers and make an estimate. An estimate, while not 100% accurate, is still closer to being accurate than nothing.*
- *The time periods for the data measurement must be the same for all steps – usually minutes, but use what corresponds best to the process being mapped.*
- *Use yellow/buff post-it notes (stickies) for any comments, concerns, etc. The number of notes under a VSM data sheet may visually indicate which steps need further focus.*
- *All time data must be entered.*
- *Always keep the CUSTOMER in mind.*
- *Remember that, as you work through the process, you will be learning and may be making changes to the data.*

11. Add up all of the work time for the activities in each row, and record them at the end of the row. Add up the row totals to get the total work time for the process. Record this grand total at the bottom of the right-hand Totals column. For any activities done in parallel, include all the work times in the in the grand total at the bottom.

12. Add up all of the elapsed time for the activities in each row (one total for best/shortest case and one for worst/longest), and record them at the end of the row. Add up the row totals to get the elapsed time for the process. For any activities done simultaneously, only count the longest activity (only count once each for best and worst) to include in the grand total at the bottom of the right-hand column.

13. The difference between elapsed time and work time represents the size of the opportunities you have for improvements. The goal is to first get elapsed time as close as possible to work time and only then to reduce work time.

Keep in Mind:

- This mapping requires you to stay focused and disciplined in how you work through the process. Your tendency will be to want to "fix" the process and jump to solutions. Don't worry, you will do this when you define the Future State for this process. For now, you'll capture all your ideas, but won't work on them. The focus

at this point is on getting a picture of what is actually happening.

- As you discuss each step, you can note any **clarifying comments**, ideas, concerns, or need for more information, a step that needs serious study, more potential resources, etc. on a **buff/yellow post-it/**stickie and place it on that step. One comment/idea/concern per post-it**/**stickie.
- If you have ideas/suggestions for **improvements** to use for the Future State, write each one on a **blue post-it**/stickie and place it on the appropriate step or on the *Parking Lot* if it applies to the whole process. One idea per post-it**/**stickie.
-
- You can also use the **"Parking Lot"** to capture ideas, comments, etc. that you don't want to forget (and will address later) but that begin to lead the team off track.

PROCESS MAPPING CHECKLIST

- The process was mapped as if there were only one widget being produced.
- The total work time is less than the total elapsed time. (If it is more than the elapsed time, estimates are probably wrong.)
- Some real opportunities for time savings are readily apparent.
- The customers' tasks are part of the Process Mapping sheet.
- Total time calculations include the customers' time.

Step Sheet w/ Definitions

Work Time		Elapsed Time
NAME OF THE STEP/ACTIVITY		

Name of the Step/Activity: This is an action. It must start with a verb and contain a noun. Examples include Fill out application, Review application for accuracy & thoroughness, .Issue license, etc.

Work Time: The actual work time it takes to complete the activity, actually acting on, doing, changing, etc, the work ("touch" time). This does not include waiting, delays, etc. Write the time and the time unit in the upper left corner of the Step Sheet.

Elapsed Time: The range of time giving the best and worst-case scenarios. The best case would be when everything goes well; the worst case when things go wrong. Write the best time and the worst time, along with the time unit, in the upper right-hand corner of the Step Sheet. Elapsed Time is measured from the end of the prior step to the end of the current one.

Time Unit: This can be identified as seconds (s), minutes (m), hours (h), days (d), months (M), and so on. Examples might be 10d, 7h, 33m, 17s.

Function: Keep in mind the organization function/role of the person performing the activity. This should not be a person's name but their function for that specific activity. Examples include case manager, agreement administrator, eligibility specialist, etc. This will be used in mapping the current state steps.

Functional Process Map Example

Process Name: Income Tax Refund															**Date:**
Product: Tax refund check				**Customer: Taxpayer**				**Volume/Yield:** (# per time period)							
Customer	10m 2D-7d Mail Return														10m 2d-7d
Mail Room		10s 3h-4d Deliver Mail											10s 4h-4d Mail check		20s 7h-8d
Mail Opener			10s 15m-5d Open envelope, Review contents												10s 15m-5d
Pre-Editors				60s 2h-3w Pre-edit Return											60s 2h-3w
Thumpers					1s 2m-3d Stamp DLN number										1s 2m-3d
Data Entry						4m 3h-60d Key-entry return	2m 3h- 60d Re-key return								6m 6h-120d
Accounting								30m 1d-3d Meet to resolve discre-pancies		1s 2d-3d Create warrant tape					30m1s 3d-6d
Treasurer								30m 1d-3d Meet to resolve discre-pancies			10s 2d-4d Approve fund transfer				30m 10s 3d-7d
System									1s 2d-7d Process return						1s 2d-7d
Central Admin.												10s 2d-4d Print check			10s 2d-4d
														Total Work Time	1h 7m 53s
														Elapsed Time – Best Case	11d 17m
														Elapsed Time – Worst Case	178d

* Adapted from Ken Miller. The Change Agent's Guide to Radical Improvement. ASQ Press: Milwaukee, WI. 2002

Analyzing the Current State

The 3 Bad B's:
Batches, Backlogs, & Bottlenecks

BATCH (Rosemary's baby)**:** Making or doing activities in groups, lots, or batches of parts/products. May create 'waste' and lengthen the elapsed time. *Batch processing is the enemy of speed*.

Batching often is the result of the wish or need to control. (Sometimes due to equipment capacity or the changeover involved.)

BACKLOG (devil)**:** An accumulation of unfilled/undone work, which -- unless the causes are fixed -- will continue to grow.

Must address the creation of backlog – start by assuring that there is no backlog generated as of now & then address the past backlog and eliminate it.

BOTTLENECK (hell)**:** An activity in any part of the process and/or a process in an organization (administration, services, IT, etc.) that limits the movement/flow of the product/process. Any resource whose capacity is equal to or less than the demand placed on it.

Every process has a bottleneck -- an activity in the process that is slower than all the others, that cannot keep up, where the work piles up, or the weakest link in the chain.

There are 2 ways to identify these**:**

1) Observe the process & look for piles.
2) Look at the statistics.

Typically, it is the people in the bottlenecks who get blamed, supervised, disciplined, and pressured (with resulting high turnover) rather than the process which is the problem.

A critical principle of process improvement is to fix the bottleneck first. It does little good to make improvements in front of the bottleneck.

The Eight Wastes

Continuous Improvement = Eliminating the 8 Wastes

Recognizing waste leads to identifying the root cause of problems. Waste within a process is a systemic flaw. All non-valued activity can be categorized into the 8 wastes below. Examples are given below for each category.

1. Overproduction

- Generating more information than the customer needs right now.
- Generating more information than the next process needs.
- Creating reports that no one reads.
- Making extra copies.
- Duplicate data sources.

2. Waiting

- Idle time created when material, information, people, or equipment is not ready.
  - Waiting for the computer system to come back up.
  - Waiting for a handed-off file to come back.
  - Waiting for customer response.
  - Waiting for copy machine.
  - Waiting for faxes.
  - Waiting for approvals.
  - Excessive Login or response times.
  - Waiting for hard copy printouts.

3. Transportation

- Movement of information that does not add value.
  - Retrieving or storing files.
  - Carrying documents to and from shared equipment.
  - Taking files to another person.
  - Going to get signatures.
  - Moving work over long distances.

4. Non–Value-Added Processing

- Efforts that add no value from the customer's viewpoint.
  - Creating reports.
  - Repeated manual entry of data.
  - Redundant reviews/approvals.
  - Use of outdated standard forms.
  - Use of inappropriate software.
  - Data entry not performed at the source.
  - Information for decision-making not real time.

5. **Excess Inventory**
   - More information, projects, material on hand than can be worked on or the customer needs right now.
     - Files waiting to be worked on.
     - Unused records in the database.
     - Open projects.
     - Office supplies, piles and shelves of supplies.
     - E-mails waiting to be read.
     - Requests for services.

6. **Errors**
   - Work that contains errors, lacks something necessary, or needs other rework.
     - Data entry error.
     - Pricing error.
     - Missing information.
     - Missed specifications.
     - Lost records.
     - Collect wrong or incorrect data.
     - Equipment breakdowns/malfunctions.

7. **Excess people motion**
   - Movement of people that does not add value.
     - Searching for files.
     - Extra clicks or key strokes.
     - Clearing away files on the desk.
     - Gathering information.
     - Looking through manuals and catalogues.
     - Handling paperwork.

8. **Underutilized people**
   - People that are needed, but not enough work to keep them busy all day – could be helping others – unbalanced workloads.
   - Poor or neglected user training and user documentation on existing/new processes.
   - Poor or neglected customer training and customer documentation on existing/new processes.
   - People watching equipment work (e.g. watching while copier prints).
   - People with training and skills beyond that needed to do the work.

Lean/Continuous Improvement Concepts

Using these Lean continuous improvement concepts can help you to transform your Current Process to your Future Process:

1. Eliminate non-value-added activities, tasks, steps

- Evaluate every activity, task, and step from the customer's point of view and ask if this action is adding form or function to the service. If it is not, try to eliminate as much of the non-value-added time as possible. Remember that customers can be internal, external, direct or indirect -- some one is paying for the services.

2. Implement low-cost / no-cost solutions first

- Use simple, grass-roots level suggestions to eliminate waste. Carry out easy decisions and make low-cost decisions. This is the test phase -- you can make permanent changes later.

3. Simplify the process

- Ask why the step or action is being done. Most of the time, the customer's requirements change over time and the process is never re-evaluated to match the current needs of the customer. Applying Lean can be a real "up-hill battle" if key business processes are no longer appropriate or even out of date.

4. Integrate the processes or steps in the process

- The process should be reviewed to reduce or combine steps in order to eliminate duplication, inconsistencies, conflicts, and redundancies across processes, functions, or offices/departments.

5. Do things only once

- Eliminate error and rework. They waste resources -- human, financial, and time – and do not meet the needs of the customer. For example, try to capture required data as needed and as close to the source as possible to eliminate loops (going back to source for data) in the process. Current States with an action, data, or information path that moves backwards should be strictly scrutinized.

6. Look at process from the customer point of view

- At every step, determine the receiver of the generated output(s) and know the required outcome. Remember that there can be, and are, many customers within a value stream.

7. Implement visual systems

- Visual systems are a form of communication and can be used to direct flow with minimal interaction from a person. Typically these can be no or low-cost solutions and can be quickly implemented to improve people, information, and documents flows. Simple signals that provide an immediate understanding of a situation or condition. They are efficient, self-regulating, and worker-managed.

8. Create value based on customer demands and needs (define the customer)

- Perform tasks that increase the value of the service for the customer -- anything else that is not necessary is waste.

9. Reduce batch size

- Analyzing the amount of inventory (or work) before and after a step in the process can help identify bottlenecks or capacity constraints in the system. Only one client, couple, case file, etc. can be addressed at a time, so question the practice of stacking or batching work and pushing batches forward to the next step in the process.

10. Improve quality – do it right the first time !

- Strive for perfection at the source of the work, always. People must be certain that the work/information they are passing to the next work step/area is of accepted quality.

11. Reduce transportation and/or motion

- Analyze the amount of movement of people and documents in performing a step. Much time can be wasted in unnecessary movement.

12. Standardize the work

- Documented, standardized work reduces cross-training time, improves efficiency, reduces searching times, and creates a work area and/or processes that produce replicable and reliable outcomes. Standardized work minimizes variation in process and process result(s).

13. **Implement *5 S* – Sort, Set in order, Shine, Standardize, Sustain**

- Sort: Eliminate the Clutter – "When in Doubt, Throw it Out."
- Set in Order: Organize and label, set boundaries and limits – "A place for everything and everything in its place."
- Shine: Clean everything, inside and out – "Inspection through cleaning."
- Standardize: Keep procedures, checklists, charts, etc. and make them visual – "Everything in a state of readiness and service"
- Sustain: Maintain discipline through the implementation of continual improvement systems and culture

14. Reduce setup or changeover time

- Changeover activity is considered non-value-added and detracts from available productive time. Reducing setup is critical to increasing customer responsiveness and effectively reducing "lot" size.

15. Implement Pull vs. Push Systems

- A Pull System is a method of controlling the flow of resources (people, information) based on pre-established rules, and the actual status of the system at any time. A Pull System is a flexible and simple method of controlling/balancing the flow of resources. It eliminates waste of handling, storage, expediting, obsolescence, rework, facilities, equipment, and excess paperwork.
- A Pull System consists of:
  - Processing/delivery of services based on actual consumption/demand of the customer.
  - Low and well-planned work in process (paperwork)
- Management by sight, improved communication.

16. Complete small incremental changes

- Strive for transition to the Future State with incremental and monitored (measured) changes. Effective vs. ineffective changes can quickly be recognized and continuous improvement will be achieved more efficiently.

17. Establish appropriate measurements to determine improvements in quality, customer service, and cost.

- Check measurements on impact of departmental goals.
- Check metrics against project selection criteria:
  - Number of customers impacted (future state should positively impact more),
  - Intradepartmental coordination improvement (reduction of duplication or redundancy),
  - Improved service (increased capacity, better quality, services delivered more quickly),
  - Dollars saved (reduced time, materials, processing),
  - Improved efficiency.

Worksheet: Value-Added vs. Non-Value-Added

Purpose: The purpose of this task is to reinforce the definitions and differences between Value-Added and Non-Value-Added activities within a value stream.

Task:

1) Individually, review the list of activities on the following page. Decide whether each activity is Value-Added (VA) or Non-Value-Added (NVA). Circle the appropriate response.

2) Use the following definitions as your criteria:

   Value Added – Any activity that adds to the form or function of your work. Any activity that the customer** is willing to "pay" for.

   Non-Value-Added – Any activity that consumes resources but creates no value for the customer. Any activity that is not necessary.

   ** *Remember, customers can be other employees, clients, legislators, taxpayers, federal agencies; walk-in customers, or any other person, group, or agency that directly or indirectly receives value from your service.*

   Typically, within value streams for service industries, almost half of all process lead time (the time from start to finish for a unit of work) is non-value-added and, many times, is even more.

3) Be prepared to share any questions or observations.

4) You have a total of **five (5) minutes** to complete this task.

Worksheet: Value-Added or Non-Value-Added Activities?

Are these activities value-added or non-value-added?	*(circle response)*	
1. Walking 25 steps to get the correct form	VA	NVA
2. Two-year supply of a form in the filing cabinet	VA	NVA
3. Adding the client's name to the form	VA	NVA
4. Re-typing information	VA	NVA
5. Hunting for correct paper for copy machine	VA	NVA
6. Loading correct paper into the copy machine	VA	NVA
7. Printing the required number of copies	VA	NVA
8. Trying to find the person for a required signature	VA	NVA
9. Filing a copy of the completed form in two offices	VA	NVA
10. Filling out reports that no-one looks at	VA	NVA
11. Reviewing the form for correctness	VA	NVA
12. Calling to get missing information	VA	NVA
13. The form or check is lying around waiting to be mailed	VA	NVA
14. Printing paperwork too soon	VA	NVA
15. Walking to central filing	VA	NVA
16. More than one approval signature on form	VA	NVA

- **Questions or Observations:**

Key Principles of Process Improvement

- Every process must have a goal.
- In any process, 95% to 99.95% of the time is waste.
- It is possible to see 80% improvement at less cost even on the first round of improvements.
- Change the structure of the process (elapsed time) before changing the work (work time).
- Watch out for the three B's – batches, backlog, and bottlenecks.
- Eliminate, consolidate, and then automate.
- Behind every process problem is a policy or infrastructure decision.
- Process design reflects the values of the organization.

VSM Worksheet: Identifying Wastes, Applying Lean Concepts

Purpose: The purpose of this task is to recognize the 8 Wastes in our daily work, and to apply Lean Concepts that are effective in reducing or eliminating them.

Method: Divide into groups – to be specified by Facilitators

Task: Select one or more steps in your process.

Step Name:
1. Identify the Waste(s) in your process:
2. Name the Waste(s) you see:
3. Select one or more Lean Concepts on the following pages to improve this step/eliminate the wastes identified:

Worksheet: Identifying Worksite Wastes

Purpose: The purpose of this task is to recognize the 8 Wastes in our daily work, and to apply Lean Concepts that are effective in reducing or eliminating them.

Method: To be specified by Continuous Improvement Practitioners/Facilitators

Task: Walk your worksite (Gemba) and on the following page -

1) Identify 5 forms of Waste in your worksite.

2) Name the waste you see.

3) Select one or more Lean Concepts to improve this step/eliminate the wastes identified.

Worksite Waste – Information Form

Observed Waste	Which of the '8 Wastes'?	Lean Concept(s) for Improvement

Worksheet: Analyzing the Current Process

What are the opportunities for improvement inside the process?

Introduction:

- Now that you have flowcharted the current process, it is time to uncover all the opportunities for improvement.
- Once you identify the areas for opportunity, you may need to do some research and think of possible solutions. You may need to involve others who are not on this team to help research, to come up with ideas, or to bounce ideas off of.

Objectives:

- Identify all the possible places in the current process where improvements can be made, using the Process Analysis Questions worksheet.
- Identify which improvements should be made first.
- Identify which improvements will have the biggest impact on process performance.
- See opportunities you otherwise might have missed.

Pre-work:

- Have completed the Mapping of the Current Process.

Estimated Time:

60 minutes total: Breakout Groups & Report-Outs & Consensus

	Questions for Analyzing the Current State of Your Process in Order to Make Improvements *	
1	**A. Functions**	
2	Can the number of functions (departments, work units, or individual roles) be reduced? (If so, consider using their talents and capacity to provide the additional services for which you have not had the needed resources.)	
3	Which movements between functions could be eliminated or the distance/time decreased?	
4	**B. Activities**	
5	Which activities offer the greatest potential for improvements?	
6	Which steps are unnecessary and could be eliminated?	
7	Will changing the sequence of the steps result in greater efficiency?	
8	**C. Time**	
9	Which activities consume the most elapsed time?	
10	Which activities consume the most work time?	
11	Which activities show the greatest discrepancy between work time and elapsed time?	
12	Based on the previous three answers, which activities should be improved first for the greatest reduction in elapsed and work time?	
13	How can time be saved on critical path activities? (*The critical path is the series of tasks/activities/steps that must be completed as scheduled to produce the final product in the time planned – the path of longest duration. Time saved on non-critical path activity has no effect on the elapsed time for the whole process.)*	
14	Which activities could be done in parallel to reduce total elapsed time?	
15	**D. Batch Processing**	
16	Where does batch processing occur?	
17	What is its impact on elapsed time?	
18	Can reducing the batch size improve elapsed time?	
19	**E. Inspections / Approvals**	
20	Where do inspections/approvals by third parties occur?	
21	Why are inspections/approvals done? What is their real reason for needing to see the product or information about it?	
22	How else could this need be addressed?	

23	Can the inspections/approvals be made unnecessary?	
24	**F. Volume**	
25	At what points (activities/steps) should the volume be checked?	
26	How can the actual volume be measured and charted?	
27	How can the volume be increased?	
28	**G. Variation**	
29	Where does variability occur in the process (that is, something that necessitates exception processing or special handling)?	
30	**H. Rework**	
31	Where do rework or correction cycles occur?	
32	How can this rework be eliminated or reduced?	
33	Where do errors occur in the process?	
34	How can these errors be reduced?	
35	What can be done earlier in the process to eliminate rework?	
36	**I. Cost**	
37	Which activities represent the greatest cost?	
38	How can the cost be reduced?	
39	**J. Complexity**	
40	Where does the process seem unnecessarily complex?	
41	How can it be simplified?	
42	**K. Customer Contact**	
43	Where are customers given an “I don’t know” answer?	
44	Where can responsiveness to customers be improved?	
45	Where can the “friendliness” of customer contact (face-to-face, paper, electronic, etc.) be improved?	
46	Where can information be given to customers to shape their expectations?	
47	How can the number and duration of contact points be reduced / simplified?	

* Adapted from Ken Miller. The Change Agent’s Guide to Radical Improvement. ASQ Press: Milwaukee WI. 2002. pp. 142-143.

PROCESS-ANALYSIS CHECKLIST

- The team has identified numerous opportunities for improvement.
- The identified opportunities, if improved, will lead to at least an 80 percent reduction in process time.
- The team is not stuck in the “We have to do it that way!” mode.
- It is pretty clear how the process could be restructured to improve timeliness and to reduce complexity.

Mapping the Future State

Worksheet: Future State - Brainstorming

What do you think? What are your ideas?

Objectives:

- Generate as many ideas as possible for the improved future process steps.

Pre-work:

- Answer the analysis questions & identify improvement opportunities.

Estimated Time:

- 40 minutes.

Introduction:

- Brainstorming is an excellent method for gathering a lot of ideas and/or information very quickly.
- The rules of brainstorming.
  - There are no bad ideas.
  - Do not evaluate the ideas, good or bad.
  - Do not debate.
  - Everyone participates.
  - The best way to get good ideas is to get lots of ideas.
- Remind yourself that no evaluation of ideas is allowed during this stage.

Action Steps:

1. Review brainstorming rules.
2. If need be, clarify the topic (question) being brainstormed.
3. As a group, brainstorm as many steps in the new, improved process as possible. Do this very quickly -
   - One step per post-it.
   - Write very quickly,
   - Write big and legibly.
   - Don't worry about thoroughness, accuracy. Just get down as many steps as you can.
   - Start with a verb.
4. You have forty (40) minutes to do this.
5. Combine similar ideas as they come up and with group consensus!
6. When the brainstorming is done, discuss any ideas for clarification.

BRAINSTORMING CHECKLIST

- The team members did not evaluate the ideas.
- "Killer" phrases were few and far between.
- Everyone contributed.
- The ideas are out-of-the-box, and beyond "ordinary".
- The ideas will help the team achieve its goals.

WORKSHEET: FUTURE STATE MAPPING

Purpose: The purpose of this task is to create a future state process map that applies Lean principles, moves the State of Maine and DHHS towards their goals, and motivates individual and team commitment and enthusiasm.

Task:

- Thinking outside the box, you're going to create a Future State Map.
- You are first going to look at the overall flow. Then, starting at the beginning of the process, evaluate each step in the Current State map, including the measurements that might indicate a problem and/or need for change. Determine if the step can be eliminated, reduced, or integrated with other steps.
- Do not let the Current State constrain you – think creatively, think outside the box.
- Using the green step sheets, build the future state while reducing the non-value-added activities identified during the Current State mapping.
- Keep in mind the *Eight Wastes* and the *Lean Concepts* to evaluate your transformation from the Current to Future State. Apply them wherever appropriate.
- Focus first on no-cost, low-cost fixes that can be implemented immediately. Then include those that will take more analysis and more time to implement.
- As you build the future state, use buff/yellow *Post-its* on each step, as needed, to highlight any ideas, concerns, need for more information or clarification, additional study, more potential resources, etc.
- Use blue *Post-its* on each step or the process, as needed, to highlight improvement/change actions that need to be taken to get to the new, future state.
- If a change is large, external, or complex enough for a team to meet for a day or more in order to solve the problem, identify that by using a red Kaizen burst sheet. (This change/improvement will be addressed as a separate, special rapid improvement intervention.)
- Review the blue improvement Post-It notes you wrote earlier to make sure you don't miss any of the ideas you generated during the Current State mapping.
- The role of every team member is to support each other to make assumptions explicit (and document them on the flipchart) and to challenge our current thinking wherever appropriate. Remember to attend to our process norms.
- You will create the Future State Map right under the Current State Map if space permits.
- You have _____ (time) to complete this task.

Creating the Improvement Implementation Plan

Worksheet: Implementation Plan

Purpose: The purpose of this task is to identify those activities necessary to move from the Current State to the Future State that you just mapped. Here, Lean principles are applied directly to the wastes identified, and specific actions are planned and assigned. Activities included on the Plan should be able to be accomplished in a minimum of time (preferably within a few weeks).

Task:

- Develop an Implementation Plan that includes:
    - Specific recommendations/actions.
    - Completion dates.
    - Responsible individuals.
    - Measures of improvement & any deliverables.
    - Perceived barriers or challenges.
- Using the ideas that were captured on the Blue *Post-Its*, you will build an Implementation Plan to move yourselves from the Current Process to a new, improved Future Process.
    - Keep in mind the *Lean Concepts* to evaluate your transformation from Current to Future State. Apply them wherever appropriate.
    - In developing the plan, review the *Questions to Consider in Developing the Implementation Plan* on the following page.
    - Focus on improvements with the greatest impact and least effort/most feasibility that should be implemented first. Then include those that will take more analysis and more time or effort to implement.
    - Enter Kaizen/rapid improvement events as activities on the Implementation Plan in order to assure that they are addressed.
- Include the infrastructure, activities, and tasks needed to ensure that the plan itself will be well-managed, will be dynamic, and will be implemented in a timely way.
- Include follow-up with the Continuous Improvement Practitioners/Facilitators as a line-item(s) on the Implementation Plan.

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- When complete, the Implementation Plan is given to the Team for follow-through.

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- When complete, the Improvement Implementation Plan is given to all the Team members for follow-through.

Questions to Consider in Developing the Implementation Plan

- What are the changes being proposed?
- Which changes should be implemented first?
    - Which problems/changes are priorities for you? For the customer/client?
    - Which changes address key organizational goals?
- What specific actions/activities must be taken to bring them about successfully?
- How will the changes be implemented?
- Who is the staff person responsible for implementing each change successfully – who has the commitment, authority, influence, and time to assure implementation, to remove barriers to change?
- What are the measures needed to determine if the changes are successful? To determine if they're actually improvements?
    - How will it be determined if the changes are seen as actual improvements by the client, the federal program(s), and by staff?
- How will input from clients, staff, and external sources be obtained regarding possible improvements, best practices, etc.
- How will any adjustments be made to the proposed changes if they are found not to work or to be actual improvements after all.

Multi-Voting

What are our top priorities?

Objectives:

- To prioritize the change ideas/recommendations.

Pre-work:

- Have developed the brainstormed improvement action ideas.

Estimated Time:

5 to 15 minutes

Introduction:

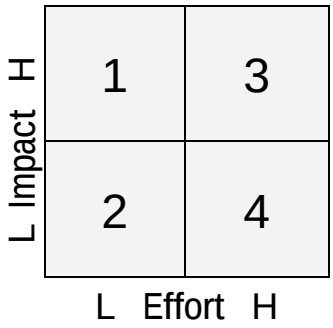
- Want to prioritize the improvement ideas.
- Understand the voting method and its application.

Action Steps:

1. The voting process**:**
   - Each person gets X votes (sticky dots).
   - You may only cast one vote for any item.
2. Once the votes are tallied, circle the items that have been selected.
3. Discuss the results, including the order of importance.
4. Do a "gut" check with the other team members.

Impact – Effort Grid

Using the Impact-Effort Grid can help you to prioritize and decide which improvements to address and/or address first.



1. Easy to do and produces a big improvement. (Implement immediately)

2. Easy to do but produces a small improvement. (Implement immediately)

3. Hard to do but produces a big improvement. (Plan activities carefully & thoroughly)

4. Hard to do and produces a small improvement. (Don't bother)

Improvement Prioritization

Which ideas do you think have the most impact and require the least effort or are the most feasible?

Objectives:

- Narrow your focus to the improvements that will have the biggest impact and require the least effort.
- Ensure that good improvement ideas that may not be feasible today are still discussed and considered.

Pre-work:

- Improvement change ideas have been entered on stickie notes, looped & grouped, and named.

Estimated Time:

15 minutes or done as items are entered on draft Plan.

Introduction:

- You have lots of great ideas, but likely cannot implement them all. This tool will help identify those ideas that have the highest impact and are the most feasible.

Action Steps:

1. Discuss and write the number of the appropriate quadrant for each of the Change Strategies and/or individual actions/activities. This will identify, at a glance, your assessment and prioritization of the change items in the Plan.

-OR-

1. Separate a flipchart page into four quadrants like the example on the following page. If there are tons of ideas, create the quadrant by using four flipchart pages on a wall.
2. Place each idea on a stick-on note.
3. Take each idea, one at a time and identify the following:
   - How much impact will this idea have? (High, Medium, Low)
     Visually move the note along the vertical axis until it's in the right spot.
   - How feasible is this idea? (High*, Medium, Low)
     Visually move the note along the horizontal axis until it's in the right spot.

4. The quadrants are as follows:

- High Impact / Low Effort -- Ideas to definitely pursue immediately.
- High Impact / High Effort -- Long-term ideas, pursue some with careful planning.
- Low Impact / Low Effort -- Low-hanging fruit, pursue these.
- Low Impact / High Effort -- Forget about these.

5. This grid is a classic analysis tool. You can give one or both axes different names/attributes. For example, substitute "feasibility" for "effort."

**High feasibility means the idea could be implemented in a short period of time without significant resources.*

- High impact / High Feasibility----Ideas to definitely pursue.
- High impact / Low Feasibility----Long-term ideas, possibly pursue some with careful planning.
- Low impact / Low Feasibility----Forget about these.
- Low impact / High Feasibility----Low-hanging fruit, pursue these.

Keep in mind that, as another example, you could develop your stakeholder strategy by using Stakeholder Interest/Involvement and Power/Influence for the two axes.

PRIORITIZATION CHECKLIST

- o The team has some great ideas.
- o The squirrelly ideas have been eliminated.
- o Some of the out-of-the-box ideas are still under consideration.
- o The team is excited.

Worksheet: Measures - Data Collection Plan

Who will do what by when to collect the data we need?

Objectives:

- Clarify what information you want before you spend time finding/collecting.
- Get clear on what you plan on doing with the data once they are obtained.
- Ensure the data are collected in a valid and timely manner.

Estimated Time:

15 minutes

Introduction:

- Before you spend time chasing your tails, it is best to be really clear about what you want to know before you set out to collect data.
- The best way to figure out what data you need to collect is to draw the charts first; then you can see specifically what you need.

Action Steps:

The data-collection plan can be brainstormed on a flipchart or completed by a team member using the template*. In either case, it consists of the following steps:

1. Define the (problem, outcome, etc.) question the team would like answered. (For example, “Why are we rejecting applications?” or “How much are we spending on rework?” “How many people are living independently?”)
2. Specifically define each term in the question. (For example, “What counts as a rejected application?” or “What is meant by ‘rework’?” or “What is meant by ‘independently’?”)
3. Decide which way it would be best to display the data. For example, using one of the following charts:
   - **Bar Chart**----Used to show comparisons or to show the frequency of a category (such as most frequently asked questions).
   - **Trend Chart**----Used to show a trend over time (such as average phone calls per month).
   - **Pie Chart**----Used to show proportions (such as sources of the phone calls).

4. For a bar or trend chart, label each axis. For a trend chart, determine the appropriate time period (scope) to document.

5. Determine the following:

   - Who will collect the data?
   - Who will create the visual?
   - By when?

6. Complete the following statement: "These data will help us decide……"

Note: When complete, each visual should have a footnote at the bottom documenting the data source and the methodology used to compile it. For example, if the measure is the percentage of budget spent on overhead, the methods used to calculate overhead should be delineated.

DATA-COLLECTION PLAN CHECKLIST

- o It is clear what question the team is trying to answer.
- o The team knows the specific data for which it will be looking.
- o All of the terms have been specifically defined.

Improvement Implementation Plan Template

Improvement Implementation Plan:		Date:

CHANGE STRATEGY	ACTION / ACTIVITY	P	RESP. PERSON	DATE DUE	DATE COMP.	PERCEIVED BARRIERS	DELIVERABLES	OUTCOMES / MEASURES	PROGRESS / STATUS

What's Next ?

Once you and the rest of the VSM team have finished the VSM mapping process, what should you plan on and expect ?

A. VSM Follow-up Activities.

There are a number of follow-up activities that, depending on the nature of your work and role, you should expect to be a part of**:**

- Rapid Improvement Events/Kaizens**:** If your VSM process identifies any specific problem/issue areas that must be addressed in order to improve your process, you might expect to be a part of the improvement team for that if you are involved in the work itself.
- Improvement Team Checkpoint**:** Expect the Team to get back together to checkpoint the direction of the Future State, its implementation status, and any emerging issues/problems as needed and/or indicated by the timelines in the Plan. The initial checkpoints should be scheduled in advance as one of the last things the Team does (see below 30/60/90 day work sessions). This way the whole group is still together and can agree on the checkpoint meeting dates and times.
- 30/60/90-Day/Monthly Reviews & Updates**:** The Implementation Plan for making changes/ improvements should include at least 30, 60, and 90-day (and beyond as indicated) status checks on the progress of the actions/change implementations planned. Any changes to the plan, whether in activities/tasks, responsible persons, or timelines should be documented, described, and agreed to by the Team, including the Sponsor and Manager. The current, updated plan should be routinely available/distributed to all Team members.
- Special Team Sessions**:** It is possible that a special session of the Team might need to be called by the Sponsor or Manager.
- Establishment of Communication Lines**:** You will want to discuss and develop mechanisms for routinely and frequently communicating with one another. This could include e-mail team distribution lists, a shared folder on a common drive for process/team working documents that the whole team can see, regular *sharing/learning* communications, improvement work sessions, etc.

If you think you've somehow slipped out of the loop, double-check with your improvement project Manager to make sure that communication and implementation channels are functioning properly.

B. Participate as an active member of the change implementation team.

As a member of the Intervention Team, you will also be a member of the group responsible for implementing the changes the team identified for improving your process. This means that you should not only help to literally carry out the improvement work, but also stay informed, keep track of the progress being made, make sure you see and read all the deliverables (map of your current process, the ideal process proposed, the implementation plan, updates, etc.), and above all continue to *challenge the process*.

C. Start all over again – continually improving, always striving for excellence, seeking perfection.

The new improved process will, of course, become your "current" process. And you will once again want to improve it – to continue to try to make it better and better. Remember that you are in the key position to know the work and how it can be improved !

Appendices

1) End-User Customer Roles Segmentation
2) Bend the Curve

Customer-Roles Segmenting Matrix

Who are the different end user groups for our product(s)?
Which customer groups do we want to talk to?

Objectives:

- Better understand the different segments inside each end-user group.
- Identify the end-user segments that are likely to have different expectations of the product.
- Help the team focus on the different wants of the end users.

Pre-work:

- Have completed the customer roles matrix.

Estimated Time:

- 20 to 40 minutes

Introduction:

- Not all end-user groups are homogeneous; inside each end-user group are different segments.
- For example not all end users of a car are the same; different segments might include age, gender, income level, occupation, and so on.
- Look for the customer segments that might have different expectations of the product. You want to make sure that the team knows what each segment wants so you can decide how to tailor the product (customization) or whether you can get by with one size fits all.

END-USER CUSTOMER – Characteristics Matrix

Action Steps:

For each end-user group identified by using the customer roles tool:

1. Write the end-user group on the top of a flipchart page.
2. Following the example on the following page, create your end-user characteristics on a flipchart, with the customer-categories listed vertically down the side of the page. You may find that for your particular end user segment, you may want to add additional categories.
3. Identify whether the possible categories are relevant by asking, "Is this category relevant to this customer group and its use of the product?"
4. If the category is relevant, ask "What are the different segments in this category that might have different expectations of the product?" Write these responses on the flipchart next to the segment category.

   Remember that a category segment is only relevant if the segment will have different expectations of the product.

5. Once complete, circle the end-user segments you would like to focus on first in identifying desired product attributes and features. In doing this, two options you might consider include -

   - Conduct separate focus group with each end-user segment (preferred).
   - Ensure each segment is represented in one focus group (when time and money are short).

CUSTOMER-SEGMENTATION MATRIX CHECKLIST

- o The team has considered all the possible ways to segment the customers.
- o The team has decided to focus on segments that are likely to have different expectations of the product.
- o The team has not lumped together segments that are likely to have different expectations.
- o The number of focus groups identified is manageable.

Customer Segmentation Matrix	
End Users:	
Age	
Income	
Geography	
Sex	
Education	
Occupation	
Race	
Experience with product	

The Importance of Bend the Curve

Expectations for services provided by Maine State departments, both directly and through community agencies, are changing significantly at the same time as are the human and financial resources available to meet these expectations. Addressing the challenge of improving services to the Maine individuals, families, organizations, and communities the State serves in these challenging times is of imperative importance.

Using the *Bend the Curve* (*BTC*) approach to service delivery and how the departments do their work will result in efficient and effective, consistent, and high-quality services that are valued by Maine citizens and are based on standardized, evidence-based best practices with uniform oversight and accountability.

HOW DOES *Bend the Curve* APPLY TO YOU?

Do you --

Chase information?
Jump through multiple process and decision hoops?
Spend a lot of time on rework?
Wait a long time for approvals?
Get constantly interrupted?
Have to have a batch of work before it's acted on or moved forward?
Feel your knowledge and work is not included in planning and decision-making?
Find that work gets lost between organizational silos?
Encounter multiple understandings about how work gets done?

Then *Bend the Curve* can help you !

The *BTC* Team can support you and your colleagues in making the changes necessary to meet the challenges of changing resources and expectations.

What is the purpose of the *Bend the Curve* Team?

The primary purpose of the *Bend the Curve* Team is to provide support, consultation, assistance, and leadership in process and other improvement approaches and activities for State staff and work teams as they seek to continually improve their work culture, procedures, processes, and environments – all in order to meet the mission of State government and the expectations of Maine citizens.

Improving Services to State Clients

Who are *Bend the Curve* Team members?

They are fellow State employees who have been and continue to be trained as Continuous Improvement Practitioners. They are knowledgeable about the continuous improvement approach, tools, and implementation.

How can the *BTC* Team help you?

- Provide awareness to you and your colleagues about *Bend the Curve* and Lean continuous improvement.
- Consult in identifying and defining work processes needing improvement.
- Identify and evaluate measurable cost and time savings, as well as quality.
- Assist with the development and monitoring of change/implementation plans.

Building Effective Teams & Service Processes

What will the *BTC* approach and methodology help you to do?

- Problem-solve to improve the delivery of services.
- Involve the staff who know the work in decision-making.
- Improve work flow design and implementation.
- Meet client/customer service expectations.
- Focus on activities/work that are value-added.
- Use measurements for improving processes and planning.
- Implement improvements more efficiently and effectively.

Using the Power of the Work Group for Process Improvement

VALUE STREAM MAPPING -- A MAJOR LEAN TOOL

Value Stream Mapping (VSM) is a visual mapping tool that outlines all the steps in a process and helps to identify ineffective procedures and waste, as well as to develop implementation plans for making continuous improvements. It develops a better way to --

- Identify a Current Process State.
- Design the improved Future Process State.
- Prepare a Change/Implementation Plan to Move Toward the Future State.
- Implement & Monitor the Implementation Plan.

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